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(54) **GAS TURBINE ENGINE HEAT EXCHANGER SYSTEM**

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CPC ..... **F02C 7/05** (2013.01); **F02C 7/052** (2013.01); **F02C 7/12** (2013.01); **F05D 2260/205** (2013.01); **F05D 2260/213** (2013.01); **Y02T 50/675** (2013.01)

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See application file for complete search history.

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(57) **ABSTRACT**

An apparatus includes a gas turbine engine and a heat transfer system. The gas turbine engine includes an inlet particle separator that separates inlet air into scavenge air and clean air. A scavenge air path conveys the scavenge air from the inlet particle separator to the heat transfer system. A heat exchange fluid path conveys a heat exchange fluid to the heat transfer system and a cooled heat exchange fluid away from the heat transfer system. The heat transfer system is configured to transfer heat from the heat exchange fluid path to the scavenge air path to cool the heat exchange fluid.

**16 Claims, 1 Drawing Sheet**

